

PREVALENCE AND ASSOCIATED RISK FACTORS OF NUTRITIONAL ANEMIA AMONG UNDER FIVE YEAR CHILDREN ATTENDING EL-AGAMY FAMILY HEALTH CARE FACILITIES-ALEXANDRIA

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Introduction

Anemia is defined as a reduction in hemoglobin concentration (Hb), hematocrit value (Ht) or number of red blood cells (RBCs) below the reference interval for healthy individuals of similar age, sex and race under similar environmental conditions. It is one of the most serious and common nutritional deficiency disorders of public health concern in both developing and developed countries affecting all age groups. The under-five age group is at great risk of having anemia. Iron deficiency anemia (IDA) is the most common type of anemia encountered among the under-five children. Egypt's vision 2030 aims to reduce under five year anemia rates from around 27% in 2014 to 15% in 2030. According to the WHO, in 2019, global anaemia prevalence was 39.8% in children aged six to 59 months.

Aim of the Work

The current study was conducted to study the prevalence and risk factors of nutritional anemia among the under five years children in EL Agamy district, investigate the existence of parasitic infestation among them and to reveal the sociodemographic, health and mothers' obstetric information that may contribute to anemia among the studied children.

Subjects and Methods

The cross-sectional design was conducted to achieve the study objectives. The available family health care center in addition to four randomly selected units out of the eight units in El-Agamy district were included in the study. Data were collected over a four months period, from the first of July 2021 till the end of October 2021. The tools used to collect the data were structured interview questionnaire, anthropometric measurements and laboratory investigations (hemoglobin and stool analysis). Data were coded and analyzed using (SPSS) software program. Qualitative data were described using number and percentage. Quantitative data were described using range, mean, standard deviation, median and interquartile range (IQR) as found appropriate. Chi-square, Fisher's Exact or Monte Carlo correction tests were used for qualitative variables. Mann-Whitney test was used for quantitative variables. The calculated sample size was 310.

Results

Table (1): Collective multivariate binary logistic regression on factors affecting anemia

Factors affecting anemia	p	OR	95% CI	
			LL	UL
Mother education (lower than university)	0.122	1.774	0.858	3.670
Family income				
Not enough	0.100	4.486	0.750	26.827
Enough	0.249	2.760	0.492	15.502
Excess	0.178			
Crowding index				
≤1	0.431			
>1	0.316	0.663	0.296	1.482
≥1.5	0.891	1.063	0.442	2.556
No exclusive breastfeeding	<0.001*	4.183	2.083	8.403
Rate of eating food rich in iron less than once daily	0.052	3.845	0.987	14.972
Mother had anemia during pregnancy	0.002*	3.127	1.534	6.372
Mother had complications during pregnancy	0.190	1.850	0.737	4.641
Anemia among the child's family members (as parents, brothers or sisters)	0.045*	2.019	1.017	4.008
No vitamin supplement taken by the child	0.042*	3.044	1.042	8.898
Having infections during the last 3 months	0.025*	2.145	1.099	4.188
lack of knowledge of the mother/guardian about anemia symptoms and signs	0.025*	2.490	1.121	5.529
Having parasitic infestation (by stool analysis test)	<0.001*	11.812	3.720	37.509

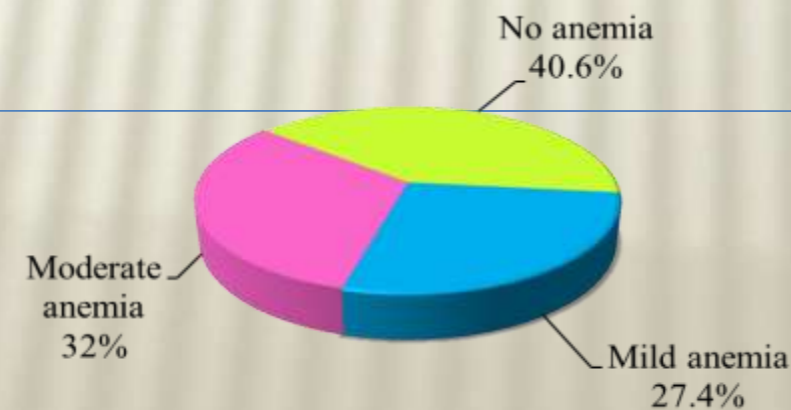


Figure (1): Distribution of the studied children according to severity of anemia

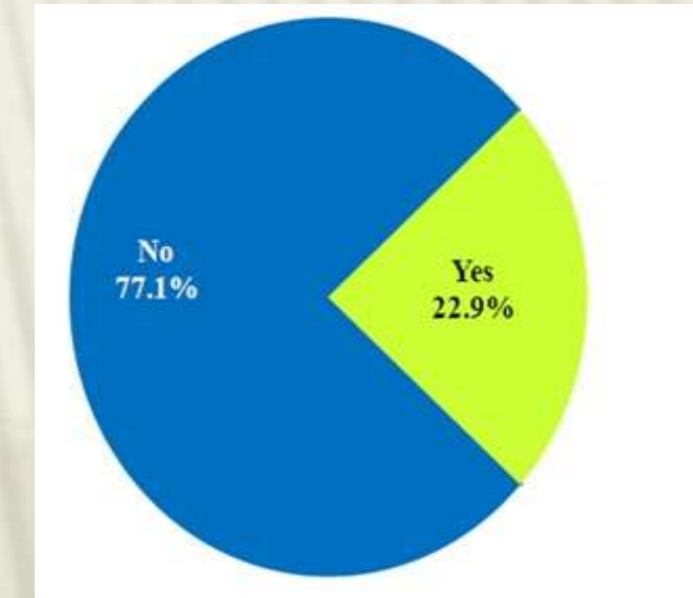


Figure (2): Distribution of the studied children according to parasitic infestation and types of the parasites (by stool analysis test)
Some children had two types of parasitic infestations

Conclusion

From the results of the present study the following could be concluded:

- 1- Prevalence of anemia among the under-fives attending El Agamy family health care facilities was 59.4%.
- 2-Prevalence of parasitic infestations among the under-fives attending El Agamy family health care facilities was 22.9%.
- 3-The factors associated with nutritional anemia among the under-five children in the study were: Parasitic infestation, having infections during the last three months, lack of knowledge of the mother/guardian about anemia symptoms and signs, lack of exclusive breastfeeding, presence of mother anemia during pregnancy. presence of anemia among the child's family members and no vitamin supplements taken by the child prior to the study.